

What is claimed is:

1. A method of routing command data through a system including a plurality of smart devices and at least one controlled device, the method including:
 - generating a command to remotely control a controlled device;
 - determining possible routes for transmitting the command by considering the communication capabilities of all devices in the system;
 - selecting a route based upon the determined possible routes; and
 - transmitting the command based upon the selected route.
2. The method of claim 1, wherein the command is transmitted using a plurality of protocols.
3. The method of claim 2, wherein the protocols are not interdependent.
4. The method of claim 1, wherein transmitting the command includes
 - transmitting the command to a smart device;
 - re-determining possible routes for transmitting the command by considering the communication capabilities of all devices in the system;
 - selecting a route based upon the determined possible routes; and
 - transmitting the command from the smart device based upon the selected route.
5. The method of claim 1 wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

6. The method of claim 1, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

7. The method of claim 1, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

8. The method of claim 1, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

9. A system for routing command data through a system including a plurality of smart devices and at least one controlled device, the system including:

a memory for storing a program; and

a processor responsive to the program to

generate a command to remotely control a controlled device;

determine possible routes for transmitting the command by considering the communication capabilities of all devices in the system;

select a route based upon the determined possible routes; and

transmit the command based upon the selected route.

10. The system of claim 9, wherein the command is transmitted using a plurality of protocols.

11. The system of claim 10, wherein the protocols are not interdependent.

12. The system of claim 9, wherein the processor is further responsive to the program to transmit the command to a smart device; re-determine possible routes for transmitting the command by considering the communication capabilities of all devices in the system; select a route based upon the determined possible routes; and transmit the command from the smart device based upon the selected route.

13. The system of claim 9, wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

14. The system of claim 9, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

15. The system of claim 9, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a

Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

16. The system of claim 9, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

17. A computer-readable medium containing instructions, executed by a processor for performing the method of routing command data through a system including a plurality of smart devices and at least one controlled device, the method including:

- generating a command to remotely control a controlled device;
- determining possible routes for transmitting the command by considering the communication capabilities of all devices in the system;
- selecting a route based upon the determined possible routes; and
- transmitting the command based upon the selected route.

18. The computer-readable medium of claim 17, wherein the command is transmitted using a plurality of protocols.

19. The computer-readable medium of claim 18, wherein the protocols are not interdependent.

20. The computer-readable medium of claim 17, wherein transmitting the command includes transmitting the command to a smart device; re-determining possible routes for transmitting the command by considering the communication capabilities of all devices in the system; selecting a route based upon the determined possible routes; and transmitting the command from the smart device based upon the selected route.

21. The computer-readable medium of claim 17, wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

22. The computer-readable medium of claim 17, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

23. The computer-readable medium of claim 17, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

24. The computer-readable medium of claim 17, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating

system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

25. A method for routing command data through a system including a plurality of smart devices and at least one controlled device, the method including:
 - receiving a command to remotely control a controlled device;
 - determining whether the command should be directly utilized by the controlled device;
 - controlling the controlled device when it is determined the command should be directly utilized by the controlled device; and
 - transmitting the command when it is determined the command should not be directly utilized.

26. The method of claim 25, wherein the method further includes:
 - receiving the command using a first protocol; and
 - transmitting the command using a second protocol where the second protocol is different from the first.

27. The method of claim 26, wherein the protocols are not interdependent.

28. The method of claim 25, wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

29. The method of claim 25, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

30. The method of claim 25, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

31. The method of claim 25, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

32. The method of claim 26, wherein transmitting the command includes
transmitting the command to a smart device;
re-determining possible routes for transmitting the command by considering the communication capabilities of all devices in the system;
selecting a route based upon the determined possible routes; and
transmitting the command from the smart device based upon the selected route.

33. An apparatus for routing command data through a system including a plurality of smart devices and at least one controlled device, the apparatus comprising:

a receiver for receiving a command to remotely control a controlled device;

a first controller for determining whether the command should be directly utilized by the controlled device;

a second controller for controlling the controlled device when it is determined the command should be directly utilized by the controlled device; and

a transmitter for transmitting the command when it is determined the command should not be directly utilized.

34. The apparatus of claim 33, wherein the receiver receives the command using a first protocol and the transmitter transmits the command using a second protocol where the second protocol is different from the first.

35. The apparatus of 33, wherein the protocols are not interdependent.

36. The apparatus of claim 33, wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

37. The apparatus of claim 333, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

38. The apparatus of claim 33, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a

Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

39. The apparatus of claim 33, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

40. A computer-readable medium containing instructions, executed by a processor for performing the method of routing command data through a system including a plurality of smart devices and at least one controlled device, the method including:

- receiving a command to remotely control a controlled device;
- determining whether the command should be directly utilized by the controlled device;
- controlling the controlled device when it is determined the command should be directly utilized by the controlled device; and
- transmitting the command when it is determined the command should not be directly utilized.

41. The computer-readable medium of claim 40, wherein the method further includes:

- receiving the command using a first protocol; and
- transmitting the command using a second protocol where the second protocol is different from the first.

42. The computer-readable medium of claim 41, wherein the protocols are not interdependent.

43. The computer-readable medium of claim 40, wherein the command is received or transmitted using at least one of wired IP, wireless IP, Bluetooth, serial communication, CEBus, and IRDA protocols.

44. The computer-readable medium of claim 40, wherein the command data includes at least one of Consumer IR, X10, HTTP, and S-Link data.

45. The computer-readable medium of claim 40, wherein one of the plurality of smart devices is a computing device running a CE operating system, a computing device running a Pocket PC operating system, a computing device running a Palm operating system, a computing device running a Windows operating system, or a computing device running embedded programming systems and capable of communicating using standard protocols.

46. The computer-readable medium of claim 40, wherein the at least one controlled device is a lighting fixture, home appliance, fan, shade, garage door opener, controller for a heating system, controller for a cooling system, television, digital video disk player, compact disk player, stereo receiver, alarm system, security system, lock system, or sprinkler system.

47. A method for automatically operating controlled devices in a system, the method including:

providing for a portable device and at least one stationary device;
determining the portable device is within predetermined proximity of the at least one stationary device;
controlling the at least one stationary device based upon the determination.

48. An system for automatically operating controlled devices in a system, the apparatus including:

a portable device and at least one stationary device; wherein the portable device includes a determining module for determining the portable device is within predetermined proximity of the at least one stationary device; and
a controller for controlling the at least one stationary device based upon the determination.